requirements for a single ply underlayment. This mat may be woven, non-woven, spunbound, needle punched or constructed by whatever method best produces the physical characteristic herein described. Said mat is similar to the type of mat commonly used in, but not limited to mattress construction, furniture padding, carpet underlayment, and sound and fire proofing in vehicles.

It is another object of the invention to provide an underlayment for a single ply roofing system that can be formed into rolls of various sizes for optimum handling, is pliable, lightweight, flexible, maneuverable, and is easily cuttable to allow more accurate fitting around roof penetrations which saves time, lowers labor, reduces job site debris and eliminates the health risk of breathing the dust generated when cutting boards.

It is a further object of the invention to provide an underlayment for a single ply roofing system that provides adequate support for the roofing membrane yet is flexible enough to assist the roofing membrane in absorbing impact while also being resilient and thus reduce membrane failure due to puncture.

It is a further object of the invention to provide an underlayment for a single ply roofing system that is highly resistant to damage during shipping, storage, handling, and installation and thus reduce or eliminate waste.

It is a further object of the invention to provide an underlayment for a single ply roofing system that is impervious to moisture, will not deteriorate or delaminate, and is dimensionally stable, will not warp, shrink or swell and thus, not pass mechanical stress to the roofing system.

It is a further object of the invention to provide an underlayment for a single ply roofing system that is dimensionally stable and will therefore eliminate the mechanical stress inherit at joints in rigid boards and the need to tape the joints as well as reduce the number of mechanical fasteners needed to secure rigid boards.

It is a further object of the invention to provide an underlayment for a single ply roofing system that can be installed in compression at joints thus eliminating the possibility of gaps in the joints and the need to fill said gaps.

It is a further object of the invention to provide an underpayment for a single ply roofing system that does not contain nor use any hazardous materials during manufacture and can be made of recycled material which can be recycled.

Still another object of the invention to provide an underlayment for a single ply roofing system that is easy to handle with selectable thicknesses and densities for various applications.

It is a object of the invention to provide improved elements and arrangements thereof in an apparatus for the purposes described which is inexpensive, dependable and fully effective in accomplishing its intended purposes.

These and other objects of the present invention will become readily apparent upon further review of the following specifications and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of a roof where the present invention is typically used.

FIG. **2** is an elevational view circle **2** of FIG. **1**, having a portion thereof broken away to show the prior art rigid board installed in preparation for the roof membrane.

FIG. **3** is an elevational view circle **2** of FIG. **1**, having a portion thereof broken away to show the instant invention underlayment mat installed in preparation for the roof membrane.

FIG. **4** is a typically installation sequence of the present invention underlayment for single ply roof membranes.

Similar reference characters denote corresponding features consistently throughout the attached drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention improves over the prior art as shown in the drawings. Referring to FIG. **1**, a typical roof top **10** of a commercial type building **12** is shown. This type of roof top **10** is generally flat. On this type of roof **10** are typically many roof penetrations; exhaust vents **14**, piping **16**, HVAC units **18**, and duct work **20**. The roofing underlayment mat of the present invention is easily installed around these and other roof obstacles.

FIG. **2** is a breakaway view of the roof shown in FIG. **1** at circle **2**, a portion of the wall **22** being removed in order to show the prior art rigid board stock insulation **00** installed in preparation for the roofing membrane. Specifically, the roof top **10** contains a structural deck **24** upon which the prior art, conventional board stock insulation **00** discussed in detail hereinbefore. The rigid board stock insulation **00** is cut and fitted around the roof penetrations (e.g. **14**, **16**) such that it lays flat on the roof and is then secured with fasteners **90**. Over the rigid board stock insulation **00** a single ply roofing membrane is installed.

Referring to FIG. **3**, is a breakaway view of the roof shown in FIG. **1** at circle **2**, a portion of the wall **22** being removed in order to show the invention in use as part of a roofing system. Specifically, the roof top **10** contains a structural ceiling **24** upon which the underlayment mat **26** of this invention is laid, and this replaces the prior art, conventional board stock insulation discussed in detail hereinbefore. The underlayment mat **26** is cut and fitted around the roof penetrations (e.g. **14**, **16**) such that it lays flat on the roof. Over the underlayment mat **26**, a single ply roofing membrane is applied.

Referring to FIG. **4**, a typical installation sequence is illustrated. The roof deck **24** is completed first as a structural component of the building. Over the roof deck **24**, the underlayment mat **26** of the present invention is rolled out and cut as appropriate. Over the underlayment mat **26**, a single ply roofing membrane **28** is finally placed into position and sealed as appropriate.

As can be seen from FIG. **3**, the underlayment mat **26**, has numerous advantages over the prior art materials. The primary advantage is that the mat **26** is lightweight, consequently maneuverable and manageable. This lightweight advantage also provides an average coverage area of approximately 700 sq. Ft. per roll over the prior art board stock 32 sq. Ft. per sheet. Also, it is very durable, yet pliable and easy to cut. Additionally, because the underlayment mat **26** is lightweight, it is easily handled by the roof workers in transporting the mat **26** up to and around the rooftop **10**. Further, the mat **26** can vary in thickness from 1/10" to 1" depending on the roofing system requirements. The mat **26** is impervious to moisture and will not warp as the prior art board stock materials and thus requires less fasteners **90** to secure it.

It is understood that the present invention is not limited to the sole embodiment described above, but also encompasses any and all embodiments within the scope of the following claims.

The invention claimed is:

1. A roofing method comprising unrolling one or more flexible underlayment mat components onto a roof deck and placing a waterproof roofing membrane component over the one or more flexible mat components, wherein the one or